

LISTING OF THE CLAIMS

- 1 1. (Currently Amended) An adjustable spinal implant comprising:
2 an extending shaft having a proximal end and a distal end and having grooves on an
3 external surface of said extending shaft;
4 a first fitting attached to said distal end of said extending shaft for engaging a first
5 structure;
6 a substantially cylindrical housing having a proximal end and a distal end and an
7 inner surface and an outer surface, wherein said proximal end of said housing
8 receives therewithin said proximal end of said extending shaft;
9 a substantially cylindrical rotor having an outer surface and an inner surface and
10 having grooves on said inner surface engageable with said grooves on said
11 extending shaft, wherein said rotor is axially fixed with respect to said housing;
12 a locking collar disposed about said outer surface of said housing at said proximal
13 ~~distal~~ end of said housing, wherein said locking collar comprises an outer
14 surface and an inner surface and at least one protrusion directed radially
15 inwardly for engagement with said outer surface of said substantially cylindrical
16 rotor; and
17 a second fitting attached to said distal end of said housing for engaging a second
18 structure.
2. (Original) The adjustable spinal implant according to claim 1 wherein said grooves on
said external surface of said extending shaft are helical.
3. (Original) The adjustable spinal implant according to claim 2 wherein said grooves on
said inner surface of said rotor are helical and engage said grooves on said
external surface of said extending shaft.
4. (Original) The adjustable spinal implant according to claim 3 wherein said rotor further
comprises circumferential grooves disposed on said outer surface.

5. (Original) The adjustable spinal implant according to claim 4 wherein said at least one protrusion on said inner surface of said locking collar engages said circumferential grooves on said rotor.
6. (Currently Amended) The adjustable spinal implant according to claim 5 wherein said first fitting attached to said distal end of said extending shaft is a fixed jaw.
7. (Original) The adjustable spinal implant according to claim 6 wherein said fixed jaw is engageable with a first rod.
8. (Original) The adjustable spinal implant according to claim 7 wherein fixed jaw further comprises a proximal end and a distal end and an upper surface and a lower surface and a first side surface and a second side surface and a rod opening through said first and second side surfaces that is open at said lower surface, wherein said rod opening comprises a substantially cylindrical opening.
9. (Original) The adjustable spinal implant according to claim 8 wherein said fixed jaw further comprises an axial opening near said proximal end and a radial opening through said upper surface extending to said axial opening for receiving a locking device.
10. (Original) The adjustable spinal implant according to claim 9 wherein said locking device further comprises a cam having a generally cylindrical shape and a driving end and an engaging end.
11. (Original) The adjustable spinal implant according to claim 10 wherein said engaging end of said cam further comprises a first curvate surface corresponding to an unlocked cam position and a second curvate surface corresponding to a locked cam position.
12. (Original) The adjustable spinal implant according to claim 11 wherein said cam is rotatable from said unlocked position to said locked position whereupon said rotation alternately moves said first curvate surface away from said rod and moves said second curvate surface into engagement with said rod.

13. (Currently Amended) The adjustable spinal implant according to claim 12 wherein said second fitting attached to said distal end of said housing further comprises an articulating jaw engageable with a second rod.
14. (Original) The adjustable spinal implant according to claim 13 wherein articulating jaw further comprises a proximal end and a distal end and an upper surface and a lower surface and a first side surface and a second side surface and a rod opening through said first and second side surfaces that is open at said lower surface, wherein said rod opening comprises a substantially cylindrical opening.
15. (Original) The adjustable spinal implant according to claim 14 wherein said articulating jaw further comprises an axial opening near said proximal end in open communication with said rod opening and a radial opening through said upper surface extending to said axial opening for receiving a locking device.
16. (Original) The adjustable spinal implant according to claim 15 wherein said locking device further comprises a cam having a generally cylindrical shape and a driving end and an engaging end.
17. (Original) The adjustable spinal implant according to claim 16 wherein said engaging end of said cam further comprises a first curvate surface corresponding to an unlocked cam position and a second curvate surface corresponding to a locked cam position.
18. (Original) The adjustable spinal implant according to claim 17 wherein said cam is rotatable from said unlocked position to said locked position whereupon said rotation alternately moves said first curvate surface away from said rod and moves said second curvate surface into engagement with said rod through said axial opening.
19. (Currently Amended) The adjustable spinal implant according to claim 1 wherein said first fitting attached to said distal end of said extending shaft is a fixed jaw.
20. (Original) The adjustable spinal implant according to claim 19 wherein said fixed jaw is engageable with a first rod.

21. (Original) The adjustable spinal implant according to claim 20 wherein said fixed jaw further comprises a proximal end and a distal end and an upper surface and a lower surface and a first side surface and a second side surface and a rod opening through said first and second side surfaces that is open at said lower surface, wherein said rod opening comprises a substantially cylindrical opening.
22. (Original) The adjustable spinal implant according to claim 21 wherein said fixed jaw further comprises an axial opening near said proximal end in open communication with said rod opening and a radial opening through said upper surface extending to said axial opening for receiving a locking device.
23. (Original) The adjustable spinal implant according to claim 22 wherein said locking device further comprises a cam having a generally cylindrical shape and a driving end and an engaging end.
24. (Original) The adjustable spinal implant according to claim 23 wherein said engaging end of said cam further comprises a first curvate surface corresponding to an unlocked cam position and a second curvate surface corresponding to a locked cam position.
25. (Original) The adjustable spinal implant according to claim 24 wherein said cam is rotatable from said unlocked position to said locked position whereupon said rotation alternately moves said first curvate surface away from said rod and moves said second curvate surface into engagement with said rod through said rod opening.
26. (Currently Amended) The adjustable spinal implant according to claim 20 wherein said second fitting attached to said distal end of said housing is an articulating jaw engageable with a second rod.
27. (Original) The adjustable spinal implant according to claim 26 wherein said fixed jaw further comprises a proximal end and a distal end and an upper surface and a lower surface and a first side surface and a second side surface and a rod opening through said first and second side surfaces that is open at said lower surface, wherein said rod opening comprises a substantially cylindrical opening.

28. (Original) The adjustable spinal implant according to claim 27 wherein said fixed jaw further comprises an axial opening near said proximal end in open communication with said rod opening and a radial opening through said upper surface extending to said axial opening for receiving a locking device.
29. (Original) The adjustable spinal implant according to claim 28 wherein said locking device further comprises a cam having a generally cylindrical shape and a driving end and an engaging end.
30. (Original) The adjustable spinal implant according to claim 29 wherein said engaging end of said cam further comprises a first curvate surface corresponding to an unlocked cam position and a second curvate surface corresponding to a locked cam position.
31. (Original) The adjustable spinal implant according to claim 30 wherein said cam is rotatable from said unlocked position to said locked position whereupon said rotation alternately moves said first curvate surface away from said rod and moves said second curvate surface into engagement with said rod through said rod opening.
32. (Currently Amended) The adjustable spinal implant according to claim 20 wherein said first fitting attached to said distal end of said housing is a fixed jaw engageable with a second rod.
33. (Original) The adjustable spinal implant according to claim 32 wherein said fixed jaw further comprises a proximal end and a distal end and an upper surface and a lower surface and a first side surface and a second side surface and a rod opening through said first and second side surfaces that is open at said lower surface, wherein said rod opening comprises a substantially cylindrical opening.
34. (Original) The adjustable spinal implant according to claim 33 wherein said fixed jaw further comprises an axial opening near said proximal end in open communication with said rod opening and a radial opening through said upper surface extending to said axial opening for receiving a locking device.

35. (Original) The adjustable spinal implant according to claim 34 wherein said locking device further comprises a cam having a generally cylindrical shape and a driving end and an engaging end.
36. (Original) The adjustable spinal implant according to claim 35 wherein said engaging end of said cam further comprises a first curvate surface corresponding to an unlocked cam position and a second curvate surface corresponding to a locked cam position.
37. (Original) The adjustable spinal implant according to claim 36 wherein said cam is rotatable from said unlocked position to said locked position whereupon said rotation alternately moves said first curvate surface away from said rod and moves said second curvate surface into engagement with said rod through said rod opening.
38. (Currently Amended) The adjustable spinal implant according to claim 1 wherein said first fitting attached to said distal end of said extending shaft is a first articulating jaw and wherein said second fitting attached to said distal end of said housing is a second articulating jaw.
39. (Original) The adjustable spinal implant according to claim 38 wherein said first and second articulating jaws further comprise a proximal end and a distal end and an upper surface and a lower surface and a first side surface and a second side surface and a rod opening through said first and second side surfaces that is open at said lower surface, wherein said rod opening comprises a substantially cylindrical opening.
40. (Original) The adjustable spinal implant according to claim 39 wherein said first and second articulating jaws further comprise an axial opening near said proximal end in open communication with said rod opening and a radial opening through said upper surface extending to said axial opening for receiving a locking device.
41. (Original) The adjustable spinal implant according to claim 40 wherein said locking device further comprises a cam having a generally cylindrical shape and a driving end and an engaging end.

42. (Original) The adjustable spinal implant according to claim 41 wherein said engaging end of said cam further comprises a first curvate surface corresponding to an unlocked cam position and a second curvate surface corresponding to a locked cam position.
43. (Original) The adjustable spinal implant according to claim 42 wherein said cam is rotatable from said unlocked position to said locked position whereupon said rotation alternately moves said first curvate surface away from said rod and moves said second curvate surface into engagement with said rod through said axial opening.
44. (Currently Amended) The adjustable spinal implant according to claim 1 wherein said second fitting attached to said distal end of said housing further comprises an articulating jaw engageable with a second rod.
45. (Original) The adjustable spinal implant according to claim 44 wherein said articulating jaw further comprises a proximal end and a distal end and an upper surface and a lower surface and a first side surface and a second side surface and a rod opening through said first and second side surfaces that is open at said lower surface, wherein said rod opening comprises a substantially cylindrical opening.
46. (Original) The adjustable spinal implant according to claim 45 wherein said articulating jaw further comprises an axial opening near said proximal end in open communication with said rod opening and a radial opening through said upper surface extending to said axial opening for receiving a locking device.
47. (Original) The adjustable spinal implant according to claim 46 wherein said locking device further comprises a cam having a generally cylindrical shape and a driving end and an engaging end.
48. (Original) The adjustable spinal implant according to claim 47 wherein said engaging end of said cam further comprises a first curvate surface corresponding to an unlocked cam position and a second curvate surface corresponding to a locked cam position.

49. (Original) The adjustable spinal implant according to claim 48 wherein said cam is rotatable from said unlocked position to said locked position whereupon said rotation alternately moves said first curvate surface away from said rod and moves said second curvate surface into engagement with said rod through said axial opening.
50. (Original) The adjustable spinal implant according to claim 3 wherein said outer surface of said rotor further comprises a taper thereon.
51. (Original) The adjustable spinal implant according to claim 50 wherein said inner surface of said locking collar further comprises a taper thereon engageable with said taper on said outer surface of said rotor.

1 52. (Currently Amended) An adjustable spinal implant comprising:
2 an extending shaft having a proximal end and a distal end and having one or more
3 helical grooves disposed on an external surface of said extending shaft;
4 a fixed jaw attached to said distal end of said extending shaft for engaging a rod,
5 said fixed jaw further comprising a proximal end and a distal end and an upper
6 surface and a lower surface and a first side surface and a second side surface; a
7 rod opening through said first and second side surfaces and open at said lower
8 surface; an axial opening near said proximal end and in open communication
9 with said rod opening; and a radial opening through said upper surface
10 extending to said axial opening;
11 a substantially cylindrical housing having a proximal end and a distal end and an
12 inner surface and an outer surface, wherein said proximal end of said housing
13 receives therewithin said proximal end of said extending shaft and wherein said
14 distal end further comprises a socket therewithin;
15 a substantially cylindrical rotor having an outer surface with circumferential
16 grooves thereon and an inner surface with one or more helical grooves thereon
17 wherein said one or more helical grooves are engageable with said one or more
18 helical grooves on said extending shaft, wherein said rotor is axially fixed with
19 respect to said housing;
20 a locking collar disposed about said outer surface of said housing at said proximal
21 ~~distal~~ end of said housing, wherein said locking collar is substantially
22 cylindrical in shape and comprises an outer surface and an inner surface and at
23 least one protrusion directed radially inwardly for engagement with said
24 circumferential grooves of outer surface of said substantially cylindrical rotor;
25 and
26 an articulating jaw attached to said distal end of said housing for engaging a rod,
27 said articulating jaw further comprising a proximal end and a distal end and an
28 upper surface and a lower surface and a first side surface and a second side
29 surface; a rod opening through said first and second side surfaces and open at
30 said lower surface; an axial opening near said proximal end; and a radial
31 opening through said upper surface extending to said axial opening; and a ball

32 depending from said proximal end for engagement in said socket of said
33 housing; and

34 a locking cam disposed within each said radial opening of said fixed jaw and said
35 articulating jaw further comprising a generally cylindrical member having a
36 driving end and an engaging end wherein said engaging end comprises a first
37 concave curvate surface corresponding to an unlocked position and a second
38 concave curvate surface corresponding to a locked position;

39 wherein said extending shaft is moveable within said proximal end of said housing
40 and as said shaft moves, said helical grooves thereon engage said helical
41 grooves of said rotor, causing said rotor to spin and wherein sliding said locking
42 collar from said unlocked position to said locked position moves said one
43 or[[e]] more protrusions into engagement with said circumferential grooves,
44 thus fixing the length of said implant; and wherein rotating said locking cam
45 from said unlocked position to said locked position brings said second concave
46 curvate surface into contact with said rod, locking said rod to said implant.

1 53. (Currently Amended) An adjustable spinal implant comprising:
2 an extending shaft having a proximal end and a distal end and having one or more
3 helical grooves disposed on an external surface of said extending shaft;
4 a first articulating jaw attached to said distal end of said extending shaft for
5 engaging a rod, said fixed jaw further comprising a proximal end and a distal
6 end and an upper surface and a lower surface and a first side surface and a
7 second side surface; a rod opening through said first and second side surfaces
8 and open at said lower surface; an axial opening near said proximal end and in
9 open communication with said rod opening; and a radial opening through said
10 upper surface extending to said axial opening;
11 a substantially cylindrical housing having a proximal end and a distal end and an
12 inner surface and an outer surface, wherein said proximal end of said housing
13 receives therewithin said proximal end of said extending shaft and wherein said
14 distal end further comprises a socket therewithin;
15 a substantially cylindrical rotor having an outer surface with circumferential
16 grooves thereon and an inner surface with one or more helical grooves thereon
17 wherein said one or more helical grooves are engageable with said one or more
18 helical grooves on said extending shaft, wherein said rotor is axially fixed with
19 respect to said housing;
20 a locking collar disposed about said outer surface of said housing at said proximal
21 ~~distal~~ end of said housing, wherein said locking collar is substantially
22 cylindrical in shape and comprises an outer surface and an inner surface and at
23 least one protrusion directed radially inwardly for engagement with said
24 circumferential grooves of outer surface of said substantially cylindrical rotor;
25 and
26 a second articulating jaw attached to said distal end of said housing for engaging a
27 rod, said articulating jaw further comprising a proximal end and a distal end and
28 an upper surface and a lower surface and a first side surface and a second side
29 surface; a rod opening through said first and second side surfaces and open at
30 said lower surface; an axial opening near said proximal end; and a radial
31 opening through said upper surface extending to said axial opening; and a ball

32 depending from said proximal end for engagement in said socket of said
33 housing; and

34 a locking cam disposed within each said radial opening of said first and second
35 articulating jaws further comprising a generally cylindrical member having a
36 driving end and an engaging end wherein said engaging end comprises a first
37 concave curvate surface corresponding to an unlocked position and a second
38 concave curvate surface corresponding to a locked position;

39 wherein said extending shaft is moveable within said proximal end of said housing
40 and as said shaft moves therewithin, said helical grooves thereon engage said
41 helical grooves of said rotor, causing said rotor to spin and wherein sliding said
42 locking collar from said unlocked position to said locked position moves said
43 one or[[e]] more protrusions into engagement with said circumferential
44 grooves, thus fixing the length of said implant; and wherein rotating said
45 locking cam from said unlocked position to said locked position brings said
46 second concave curvate surface into contact with said rod, locking said rod to
47 said implant.

1 54. (Currently Amended) An adjustable spinal implant comprising:
2 a substantially cylindrical housing having a proximal end and a distal end and
3 having an axial opening therein;
4 an extending shaft having a proximal end and a distal end wherein said proximal
5 end is insertable into said axial opening;
6 a rotor rotatably disposed within said axial opening and having an external surface
7 and an internal surface wherein said internal surface engagingly cooperates
8 with said extending shaft, wherein said rotor is axially fixed with respect to
9 said housing;
10 a locking collar disposed on said substantially cylindrical housing slideable
11 between an unlocked position wherein said locking collar does not engage
12 said rotor and a locked position wherein said locking collar engages said rotor;
13 a first fitting attached to said distal end of said extending shaft; and
14 a second fitting attached to said distal end of said substantially cylindrical
15 housing.

55. (New) The adjustable spinal implant according to claim 1 wherein translational motion of said extending shaft relative to said housing causes rotational motion of said rotor with respect to said housing.

56. (New) The adjustable spinal implant according to claim 52 wherein translational motion of said extending shaft relative to said housing causes rotational motion of said rotor with respect to said housing.

57. (New) The adjustable spinal implant according to claim 53 wherein translational motion of said extending shaft relative to said housing causes rotational motion of said rotor with respect to said housing.

58. (New) The adjustable spinal implant according to claim 54 wherein translational motion of said extending shaft relative to said housing causes rotational motion of said rotor with respect to said housing.